

the same throughout the group, a species of Cottonwood (*Hibiscus*) being prominent everywhere. In fact, one can find the same trees common throughout the group.

The majority of the islands are very rugged, the mountains coming right down to the sea, consequently the area suitable for plantations is not great. Pockets of fertile soil have here and there been cleared and planted. Quite a lot of wild cocoanuts are gathered and made into copra by the natives and this is picked up by cutters and small schooners. The islands are very hot and humid and there is only an appreciable difference when the trade winds blow and the sun is on the other side of the equator.

I went to the most northern islands of the whole group, the Banks Group and stayed at the largest island Vanua Lava. The Banks are the wettest islands in the whole group, the annual rainfall being over 200 inches. One of the flowering plants was a pretty *Begonia* which climbed well up the trees and was one of the prettiest there.

There is a good lot of Mangrove on the eastern side of the islands and nowhere have I seen mosquitoes so bad. The anopheles are in droves and when walking along the beach and an empty or hollow log is tapped, the mosquitoes come out in a cloud. It was on this island that I had the misfortune to contract fever very badly and I would have been sent to a hospital only there was no means of getting me there.

I must tell of the sulphur desposits of Vanua Lava which I visited before I was sick. These deposits on Vanua Lava are a splendid spectacle of volcanic formation and are well worth the trouble of getting to them. You leave a small bay at Langnetack and walk through about five miles of tropical scrub, crossing a river of sulphurous water aptly named Sulphur River, in which the water has a decidedly yellow tinge. The water is steaming all the time, giving off the familiar but strong smell of the sulphur compounds. The water is so hot that all the human skin can bear is to place the arms in it.

To get to the sulphur deposits you leave the river and take a short cut through the scrub, which consists of a luxurious vegetation, being in no way affected by the sulphur. After about three miles, without any warning, you come across a big cleft in between two hills, with a stream of hot blue water running through the bottom. On one side the scrub comes right down to the water's edge without any loss in luxuriance, while on the other side the ground is of a gray ashy color all smoking with sulphur fumes. Here and there are bright yellow patches of pure sulphur, while further up on the crest of the hill are numerous stunted trees of a *Eugenia* which seems to be found throughout the islands in a stunted form under adverse conditions. The same tree in the rain forest assumes mighty dimensions. There are also *Pandanus* trees and it seems very strange that these two members of the plant world should grow in soil that is exceptionally hot. I went through the crust of the soil at the base of one stunted *Eugenia*, burning my feet in the hot molten soil and the

tree was still alive although it showed signs of not having much life ahead of it.

The traveler has to be very wary where he places his feet as in many places there is only a thin crust on the molten lava and if this is broken the foot sinks into it and one could be very severely burnt before being able to extricate the foot.

The golden yellow deposits of sulphur is what takes the eye, as they are there in yellow pinnacles of all shapes and sizes, with the sulphur fumes rising thickly around, sometimes obscuring them and causing an uncanny mystic sensation. Under such conditions one is loth to break the top off of one of these pinnacles but when this is done, a slight report followed by a cloud of sulphurous steam gives a great shock to the breaker as he imagines he is letting off the pent up gases of the interior to wreck havoc and destruction.

Further on is a circular pool where the water is boiling with tremendous energy, the steaming blue sulphurous water being dashed round and round.

By this time the traveler has had enough of the dense sulphurous fumes, having a very severe headache and after breaking off a few pieces of sulphur is glad to set off for home watching his step as he does so.

VANIKORO, SANTA CRUZ ISLANDS

Vanikoro is the southern port of the Solomon Islands and is unique in respect of the stand of Kauri Pine there. The rainfall is exceedingly heavy, the gorge at the port being a very fine example of tropical luxuriance, which surpasses anything seen in the New Hebrides. The trees are draped with epiphytes comprising climbers, Ferns, Lycopods and the common long trailing Orchids of the tropics. The soil is brownish red and seems to be of a very great age. The absence of coral formations on the hills confirms this theory.

The Vanikoro Timber Company have carried out great improvements for the transport of timber to the sea. The rainfall is so heavy that the use of mechanical transport is impossible, except where there are railroad lines laid down. The Company have a tramline about one mile long into the foothills and use steam haulers with long wire ropes to haul the logs to the head of the tramline. The logs make deep furrows and on account of the heavy rainfall, a greasy surface is always present, which makes the hauling much easier than on dry soil.

The Kauri Pine has a very large head of branches and an exceedingly short trunk in comparison. On account of this a lot of timber is wasted as there are numerous branches on otherwise good logs. Sapwood is very considerable and proves that the Kauri is a fairly quick growing timber.

The trees bear large crops of cones and I have seen the heads white with large crops of cones in all stages, from the flowering stage to the cones that are bursting. A plentiful supply of seed is always available but only one in a hundred thousand germinates according to a rough

calculation made by me. Out of that one, only a fraction comes to maturity. The darkness caused by the overhead canopy of vines and leaves of the rain forest, together with the excessive dampness destroys the seeds and it is only when a seed lands on a well lighted piece of ground and gets favorable conditions that it germinates. In places it is very difficult to find small trees although there are numerous large trees about. This is one of the outstanding features of the islands.

The Lycopods of Vanikoro are very interesting. Nowhere else have I seen such a variety growing on the trees. These beautiful draping plants in my opinion give the trees a curtain effect. The number of varieties found here are astonishing being the richest island I have come across in this respect. The same applies to Orchids and other epiphytic plants.

The flora of Vanikoro is the richest I have seen on a single island and the great variety of all classes of plants is amazing. The mosses on the tops of mountains are very grand making the trunks of the small trees look like gigantic pillars. These mosses all grow one length, about 7 inches long, and radiating out from the tree all around, give a wonderful pillar effect, like the ruins of an old Roman temple. A very pretty Orchid with a flower as large as the rest of the plant, was found growing out of the moss. It was found in two colors, white and pink.

Before finishing I must mention the Narli Nut or Ni, as this valuable nut is found right through the islands and is a valuable source of food supply for the natives. Nowhere are the trees as prolific as at Vanikoro, nor do they have the same long fruiting period. The nut is from 6 to 8 cm. long and 3.5 to 4.5 wide and about 3 cm. across, flattened on one side, with a slight round curve and going to an angle on the other side. An average kernel is about 5 cm. long, 3 cm. wide and 1.5 cm. across, but a good many are much larger. The cotyledons are well formed and constitute almost the entire kernel. These nuts have a flavor of their own, but one has to get used to them as they are very rich in oil. It is noticeable how fat the natives are, where this food forms one of their chief diets.

The trees bear exceedingly heavy crops of nuts up to ten being counted on a single fruiting stem, in fact so heavy are the crops that the branches are well bent down with the weight. They are covered with a purple black husk when ripe. The trees are exceedingly handsome and the bark exudes a high turpentine smelling gum. For economic and ornamental reasons, the trees should be planted in tropical and warm temperate climates.

There is a very interesting plant that grows right through the New Hebrides, being the native Arrowroot. This is typical of the large variety of plants that grow wild with very little attention. The tubers are not very large, being of the same size as the English potato, but they grow much larger in cultivation. One or two bulbs are found growing on a single plant, never more. This plant seeds very freely, one plant producing large quantities of seed.